

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 88-036

WATER RECLAMATION REQUIREMENTS FOR:

CITY OF PETALUMA, DAN SILACCI, CHARLES MATTERI, HENRI CARDINAUX, JOSEPH MENDOZA, RALPH BETTINELLI, MILTON TUNZI, AND FRANK PINHEIRO; SONOMA COUNTY.

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board) finds that:

1. The City of Petaluma (hereinafter the Producer); and Dan Silacci, Charles Matteri, Henri Cardinaux, Joseph Mendoza, Ralph Bettinelli, and Milton Tunzi (hereinafter the Users) have signed Reclaimed Wastewater Users Agreements and propose the following:
 - a. Approximately 550 acres of land will be irrigated with secondary treated wastewater and used to grow fodder, fiber, or seed crops. The location and size of the areas to be irrigated are generally shown on attachment A, which is hereby made a part of this Order.
 - b. Animals, including milking and non-milking cows and goats, will be pastured on land irrigated with wastewater.
 - c. Sufficient storage and irrigation will be provided so that all the discharger's wastewater will be contained without discharge to State waters from May 1 through October 20 of each year.
 - d. From October 21 through April 30, wastewater may be discharged to the Petaluma River from the plant's oxidation ponds.
2. The discharge of wastewater from the Petaluma treatment plant to the Petaluma River from October 21 through April 30 is covered by a separate set of requirements adopted by the Regional Board under the National Pollutant Discharge Elimination System.
3. Section 13523 of the California Water Code provides that a Regional Board, after consulting with and receiving the recommendations from the State Department of Public Health, and if it determines such action to be necessary to protect the public health, safety, or welfare, shall prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water. The use of reclaimed water for the purposes specified in Finding 1 could affect

the public health, safety, or welfare, and requirements for these uses are therefore necessary in accordance to the Water Code.

4. The Board adopted a Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin in December 1986. The water quality objectives for reclaimed wastewater, as set forth in the Basin Plan, are specified in Title 22, Section 60301 - 60357 of the California Administrative Code.
5. The producer and Users are presently governed by Regional Board Order No. 82-18.
6. The Board has notified the Producer, the Users, and interested agencies of its intent to prescribe water reclamation requirements for the proposed uses.
7. The Board at a public meeting heard and considered all comments pertaining to this reuse.

IT IS HEREBY ORDERED, that the Producer and Users, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Reclaimed Water Quality Specifications

1. The Producer shall assure that reclaimed water is at all times and adequately disinfected, oxidized water that meets the following quality limits at all times:

5-day BOD	30 mg/l	(30 day ave)
	60 mg/l	(daily max)
Dissolved Oxygen	1.0 mg/l	minimum
Dissolved Sulfide	0.1 mg/l	maximum
Coliform Organisms	Median MPN shall not exceed 23 coliform organisms per 100 ml of sample or 240 MPN/100 ml for any two consecutive samples at some point in the treatment process. The median value will be determined from the bacteriological results of the last 7 analyses.	

2. The Producer shall discontinue the diversion of reclaimed water to the Users during any period in which he has reason to believe that the limits specified in A.1 are not being met.

B. Reclaimed Water Use Restrictions

The Users shall comply with the following restrictions for their use of reclaimed water.

1. Use of reclaimed wastewater under provisions of this Order shall be limited to irrigation of fodder, fiber and seed crops, and pasturing of non-milking and milking animals.

2. Areas with public access irrigated with reclaimed wastewater shall be fenced and clearly identified with posted notices to the public. The method and form shall be subject to the review and approval of the Executive Officer.
3. Reclaimed wastewater shall be applied to use areas in a manner which will prevent direct contact with the wastewater.
4. All equipment, including pumps, piping, valves, etc. with public access which at any time contain waste shall be adequately and clearly identified with warning signs and the Users shall make all necessary provisions, in additions, to inform the public that the liquid contained is sewage and is unfit for human consumption.
5. No reclaimed water used for irrigation shall be allowed to cause saturated conditions to any area outside the disposal areas, either by surface flow or airborne spray. The disposal area shall be defined to mean the spray irrigation area plus the ditch system draining the area.
6. Reclaimed water shall not be applied so as to cause saturated conditions within 100 feet of any house, milking barn, pond, or flowing stream channels containing surface water .
7. Reclaimed water shall not be used as a domestic or animal water supply.
8. Fodder, fiber, and seed crops shall not be harvested when wet from spraying with reclaimed water.
9. Surface draining channels for the hillside areas irrigated with reclaimed wastewater shall be dammed to prevent any runoff of reclaimed water from entering flowing stream channels containing surface water. All ponded (dammed) reclaimed water shall be disposed of properly; in accordance with the restrictions, specifications, and provisions of this Order.
10. If a use restriction should be violated, irrigation with reclaimed wastewater shall be immediately terminated at the specific location and not resumed until all violations and conditions which would permit the violations to recur have been corrected.

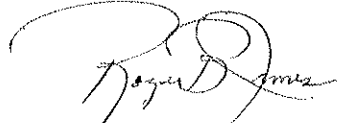
C. Provisions

1. The treatment, distribution, or reuse of reclaimed wastewater shall not cause a nuisance as defined in Section 13050(m) of the California Water Code.

2. Unless written authorization permitting reclamation of wastewater on a specific field or defined area other than shown in Attachment A is received from this Board's Executive Officer, the Producer shall not supply such a use of wastewater.
3. Wastewater shall not impair water quality.
4. 90 days prior to initial commencement of wastewater reclamation on any use areas, the Producer and Users shall submit to the Board:
 - a. a list of users, indicating property owners (if different) and their addresses;
 - b. maps showing exact areas and fields to be irrigated;
 - c. the proposed use of the reclaimed water on each irrigation area;
 - d. maps showing locations of domestic and irrigation wells in, or adjacent to, the irrigation areas;
 - e. a report (after consultation with the State and County Health Departments) that is satisfactory to the Executive Officer on how each well will be adequately protected.
5. The Producer and Users shall file with the Board technical reports on self-monitoring work performed according to detailed specifications as directed by the Executive Officer.
6. In accordance with California Water Code Section 13267(c), the Producer and Users shall permit the Board or its authorized representative:
 - a. Entry upon premises in which an effluent source is located or in which records are kept,
 - b. Access to copy any records required to be kept under the terms and conditions of this Order,
 - c. Inspection of any monitoring equipment or method required by this Order, and
 - d. Sampling of any discharge or reclaimed water
7. The Producer and Users shall maintain in good working order and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the water reclamation requirements.

8. Board Order No. 82-18 is no longer applicable and is hereby rescinded.
9. The Producer and Users shall comply with a Self-monitoring Program as ordered by the Executive Officer.
10. This Order is subject to Board review and updating, as necessary, to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in the Regional Board Basin Plan; or changes in the discharge characteristics in five year increments from the effective date of this Order.

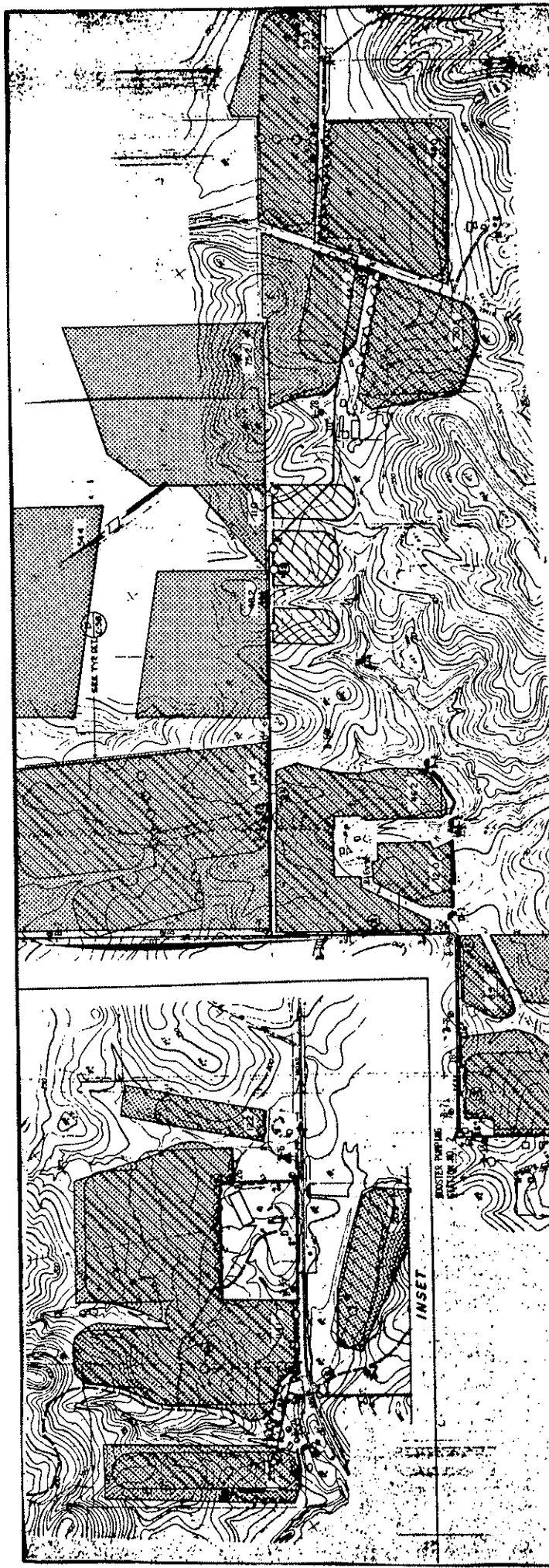
I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 16, 1988.



ROGER B. JAMES
Executive Officer

Attachments:

- A. Reclaimed Water Location Map
- B. Self-Monitoring Program



LEGEND

- SOLID PVC IRRIGATION MAINLINE 16" DIAMETER TYPICAL
- EXISTING UNBID PVC IRRIGATION MAINLINE
- UNBID IRRIGATION FORCE MAIN OF UNBID DIAMETER
- NEW
- ROAD CROSSING
- BOOSTER PUMPING STATION
- CHECK VALVE P-1 THROUGH P-4
- IRRIGATION MAINLINE GATE AND VALVE
- WATERING SYSTEM FOR TRAVELING CAR
- WATERING SYSTEM FOR SOLID SET SPRINKLER
- LEGEND PROPOSED: PRICE TO 1987
- FELLS PROPOSED 1987 - (TOTAL ACRES = 505.5, 28 ACRES CITY'S LAND)
- NOTE: BOUNDARY (APPROXIMATE LOCATION)

IRRIGATION SYSTEM DESIGN CRITERIA

SOLID SET SPRINKLER SYSTEM

- SPRINKLER SPACING: 30 FEET
- LATERAL SPACING: 60 FEET
- NOZZLE DIAMETER: 0.54 INCH
- DESIGN NOZZLE OPERATING PRESSURE: 40 PSI
- DESIGN APPLICATION RATE: 0.20 INCH/HR

TRAVELER SYSTEM

- LAKE LENGTH: 1,250 FEET
- LAKE SPACING: 250 FEET
- DESIGN TRAVELER OPERATING PRESSURE: 40 PSI
- DESIGN APPLICATION RATE: 0.5 INCH/HR

IRIGATION FORCE MAIN FROM MAIN IRRIGATION PUMPING STATION

NOT INCLUDED IN THIS CONTRACT

ELAVATIONS SHOWN REFER TO DEGREES 1989 MSL DATUM.

SCALE

1" = 800'

CITY OF PETALUMA

EFFLUENT IRRIGATION SYSTEM

GENERAL

SITE PLAN

STATE OF CALIFORNIA

REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

ATTACHMENT A

LOCATION MAP

DRAWN BY: RAD

DATE:

DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

FINAL
SELF-MONITORING PROGRAM
FOR

CITY OF PETALUMA
RALPH BETTINELLI
HENRI CARDINAUX
CHARLES MATTERI
JOSEPH MENDOZA
FRANK PINHERIO
DAN SILACCI
MILTON TUNZI

SONOMA COUNTY
WATER RECLAMATION PROJECT

ORDER NO. 88-036

CONSISTS OF

PART A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

Part A

1. General

Reporting responsibilities of waste dischargers are specified in this Regional Board's Resolution No. 73-16 and in Section 13225(a), 13268, 13383, and 13387(b) of the California Water Code.

The principal purposes of a monitoring program by a waste discharger, also referred as a self-monitoring program, are:

- a. To document compliance with waste discharge requirements and prohibitions established by the Regional Board.
- b. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge.

2. Sampling and Analytical Methods

Sample collection, storage, and analyses shall be performed according to the latest edition of

"Standard Methods for the Examination of Water and Wastewater"

prepared and published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation; or other methods approved and specified by the Executive Officer of this Regional Board.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health or a laboratory approved by the Executive Officer. The Director of the laboratory whose name appears on the certification shall supervise all the analytical work in his laboratory and shall sign all reports of such work to the Regional Board.

3. Definition of Terms

1. A grab sample is defined as an individual sample collected in less than 15 minutes.

2. Standard Observations

a. Pond System

During the times when reclaimed water is being supplied for irrigation, the pond system integrity shall be visually checked for the following items:

- i. Cleanliness of inlet and outlet structures
- ii. Scum or trash on pond surface
- iii. Pond berm erosion
- iv. Signs of burrowing animals in pond berms
- v. Seepage from the storage ponds. Any observed standing water which is believed to be seepage from the ponds shall be analyzed for Total Coliform, Fecal Coliform, Fecal Streptococci, and electrical conductivity.

b. Spray Irrigation Sites

For each reclaimed water User, the following shall be recorded after inspection by either the Producer or User:

- i. The specific "runs" irrigated, type of equipment used, and hours of irrigation.
- ii. Location and extent of any spray transport outside the setback areas, including spray transport outside property lines.
- iii. Location and extent of any runoff to check dams, stream channels containing surface water, or offsite.
- iv. Location and source of any odors of sewage origin.

4. Description of Sampling Stations and Schedule of Sampling, Analysis, and Observations

1. Description of Sampling Stations

a. Effluent

Station

E-1

Description

Located at any point after dechlorination and before irrigation.

b. Land Observations

<u>Station</u>	<u>Description</u>
P-1 thru P-'n'	Located at points spaced equidistantly along the perimeter levees of the storage ponds.
U-1 thru U-'n'	Located at each User site.

c. Groundwater and Surface Water

<u>Station</u>	<u>Description</u>
W-1 thru W-'n'	Located at each water supply well, groundwater monitoring well, and spring and livestock reservoir identified in Fig. 1.

2. Schedule of Sampling, Analyses, and Observations

- a. This self-monitoring program is applicable when wastewater is being reclaimed for irrigation.
- b. The Producer and Users are required to perform observations, sampling, and analyses according to the schedule given in Table I.

5. Reports to be Filed with the Board

1. Violation of Requirements

In the event the Producer or Users are unable to comply with the conditions of the water reclamation requirements and prohibitions due to:

- a. maintenance work, power failure, or breakdown of waste treatment facilities,
- b. accidents caused by human error or negligence, or
- c. other causes such as acts of nature,

the producer or Users shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written report shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to prevent the problems from recurring.

2. Self-Monitoring Reports

Written report by the Producer shall be filed regularly for each calendar month by the 15th day of the following month. The reports will be comprised of the following:

a. Letter of Transmittal

A letter transmitting self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the past month and actions taken or planned for correcting the violations such as operations modifications, and/or facilities expansion. If the Producer or User has previously submitted a time schedule for correcting requirement violations, a reference to the correspondence transmitting such a schedule will be satisfactory.

The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

b. Results of Analyses and Observations

Tabulations of the results from such required analyses and/or observations specified in Table I by date, time, type of sample, and station.

c. List of Approved Analyses

- i. List the analyses for which the Producer is approved by the State Department of Health.
- ii. List of analyses performed for the Producer by another approved laboratory. Copies of reports signed by the laboratory director shall also be submitted as part of the self-monitoring report.

3. Annual Reports

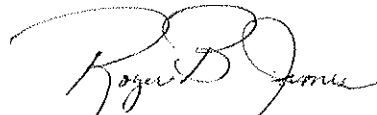
An annual report from the Producer summarizing the use of reclaimed water for each User shall be submitted to the Board by December 15 of each year. the report shall contain the following:

- a. summary and analysis of the water quality data from the pond system

- a. summary and analysis of the water quality data from the pond system
- b. summary and analysis of the water quality data from the surface and groundwater
- c. list of all violations of requirements and complaints received in the previous season. All violation and complaint investigative reports shall be included with this annual report.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing Self-monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with the Water Reclamation requirements established in Regional Board Order No. 87-036.
2. Is effective on the date shown below.
3. May be revised at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Producer or Users, and revisions will be ordered by the Executive Officer.


ROGER B. JAMES
Executive Officer

Effective Date: MARCH 21, 1988

Attachment:

- a. Table I
- b. User's Inspection Sheets

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSES

Station Parameter	E-1		W-1 thru W-'n'	U-1 thru U-'n'	P-1 thru P-'n''
Type of Samples		G	G	O	O
Flow Rate	D			D	
Coiliform Organisms (MPN/100ml)		D	3/Y**		
Chlorine Residual (mg/l)		D			
5-day BOD		3/W			
Dissolved Oxygen		D			
Dissolved Sulfide *		D			
Settleable Solids (ml/l-hr)		D			
pH (unit)		D			
Sodium (mg/l)					
Calcium		A			
Magnesium		A			
Bicarbonates		A			
Carbonates		A			
Nitrogen (all forms)		A	3/Y**		
Phosphorous (total)		A			
Potassium		A			
Boron		A			
Cadmium		A			
Copper		A			
Lead		A			
Zinc		A			
Sodium Adsorption Ratio		A			
Turbidity			3/Y**		
Groundwater Elevation			M		
All Applicable Standard Observations				D***	M

G = Grab Sample

O = Observation

D = Daily

M = Monthly

A = Once per irrigation season

3/Y = Three times per year

3/W = Three times per week

* Analyze for this item when Dissolved Oxygen is below 2.0 mg/l.

** Samples to be taken once before, once during, and once after the irrigation season.

*** The User shall perform the designated observations and file the User's Report in Attachment B as part of the Self-monitoring report. The User's Report shall be transmitted with the Producer's monthly Self-monitoring Report.

INSPECTION SHEET FOR RECLAIMED WASTEWATER IRRIGATION

PRODUCER : _____

USER : _____

MONTH : _____

Day	Time of Inspection	Location and Extent of any spray transport outside set-back areas	Location and Extent of any run-off to check dams, stream channels, or offsite	Check for saturated conditions within 100' of channel, house, or barn
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
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24				
25				
26				
27				
28				
29				
30				
31				

* All violations and other information are to be explained on a separate sheet

INSPECTION SHEET FOR RECLAIMED WASTEWATER IRRIGATION

PRODUCER : _____

USER : _____

MONTH : _____

Day	Time of Inspection	Initials	Location and source of any odors of sewage origin. Indicate distance, character source, direction of travel	Specific "runs" irrigated, type of equipment used, and hours of irrigation
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
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16				
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26				
27				
28				
29				
30				
31				

INSPECTION SHEET FOR RECLAIMED WASTEWATER IRRIGATION

PRODUCER : _____

USER : _____

MONTH : _____

Day	Time of Inspection	Gallons of water used (GPM)	Crops grown	Remarks
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
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